

Maryland - 2001

Forest Health Highlights



The Resource

Maryland occupies a land area of 6,264,876 acres. Forestland comprises 2,709,062 acres of which nearly 90 percent is privately owned. Healthy, productive forests are critical in urban and rural areas for soil conservation, clean air and water, wildlife habitat, outdoor recreation, and aesthetics. The forest products industry is the largest employer in Allegany and Garrett Counties and the second largest employer on the Eastern Shore.

Forest Health Monitoring

The Forest Health Monitoring (FHM) Program has two components: plot network and aerial survey. The USDA Forest Service Northeastern Station Forest Inventory and Analysis Staff administer the plot network in Maryland in cooperation with the Maryland Department of Natural Resources. The plot network is designed to annually monitor, assess, and report on changes in the long-term condition of trees, soils, lichens, and air quality in forests. During 2001, measurements and observations of these forest health variables were made on one-quarter of Maryland's 40 plots.

The Maryland Department of Agriculture conducts the aerial survey component of FHM. The objectives of the FHM Program are delimiting, mapping, and reporting forest pest problems as a supplement to the FHM plot network. Aerial surveys, data collection, and reporting are conducted in accordance with FHM standards for air operations and GIS.

Forest Pests Issues

Gypsy Moth — Defoliation from this major pest of Maryland's forests increased for the fourth consecutive year. This increase was dramatic from 22,824 acres in 2000 to 46,183 acres in 2001, of which 25,000 acres occurred in Allegany County. This resurgence necessitated an expanded suppression project this year to protect foliage and reduce larval populations. Consequently, 48,588 acres for gypsy moth were treated in 2001, approximately three times the area treated in 2000.

Gypsy Moth Risk Mapping — In 2000 and 2001, Maryland Department of Agriculture (MDA) developed a spatially accurate layer of forests at risk to gypsy moth-induced oak mortality in the State. Based upon the national definition of "25 percent mortality in the next 15 years", areas were defined that are dominated by oak and have been defoliated and/or treated for gypsy moth at least twice in the past 20 years. To accomplish this, GIS software (ARC View-Spatial Analyst) was utilized to identify these areas from MDA's historical data, and overlayed onto a newly available forest type map produced by the Maryland Forest Service.

Bark Beetles — Since 1993, through USDA, APHIS-CAPS, Maryland Department of Agriculture has searched for **exotic bark beetles** in Maryland as part of a national survey for five European bark beetle species. These exotic bark beetles, which have the potential for causing economic and ecological impacts in the U.S., are sampled with pheromone-baited Lindgren funnel traps. For the fifth consecutive year, traps were placed in seven Maryland counties surrounding the Chesapeake Bay for eight weeks in the spring and early summer. None of the five target species were found. The **pine shoot beetle**, another European bark beetle, was the target of another USDA, APHIS funded survey conducted for the ninth consecutive year in 10 Maryland counties. The pine shoot beetle, first found in western Maryland in 1995, was discovered as far east as Frederick County this past year. This exotic bark beetle has now been recorded from all four western Maryland Counties (Allegany, Frederick, Garrett, and Washington). A federal quarantine restricts pine material moving from these counties. **Southern pine beetle** populations continue to remain low in the State.

Hemlock Woolly Adelgid (HWA) — HWA remains the major threat to the health of eastern hemlock. Older areas with infested hemlocks occur in the metropolitan area between Baltimore and Washington and in natural stands in Harford and Frederick Counties. HWA continues to slowly move westward so that new populations can now be found at Rocky Gap State Park, Allegany County. As part of a mid-Atlantic multi-state survey, 13 plots have been set up in six counties to assess the HWA impact on hemlock stands. So far, HWA has not killed trees. The potential for HWA biological control by the predatory ladybird beetle, *Pseudoscymnus tsugae*, was evaluated for the third consecutive year in recently infested hemlock stands in Harford County, cooperatively with the USDA Forest Service. Low numbers of this predator were recovered at the release site.

Fall Cankerworm — This native spring defoliator declined dramatically in the Washington, DC suburbs of Cheverly, University Park, and College Park. The communities of Greenbelt and Takoma Park had nuisance levels of caterpillars with some spotty defoliation.

Miscellaneous Forest Insects — **Fall webworms** were much less numerous than previous years throughout the State. Localized infestations of **locust leafminer**, **orange striped oakworm**, and **eastern tent caterpillar** were reported.

Miscellaneous Forest Pathogens — Incidental surveys for **elm yellows** in Frederick, Washington, and Allegany Counties found somewhat lower disease incidence. **Bacterial leaf scorch** is gaining increasing attention in the State. High-profile, diseased trees in Annapolis and Ocean City were identified in 2001.

Special Issues

Asian Longhorned Beetle (ALB) — This exotic beetle presently exists in the cities and suburbs of New York and Chicago and represents a major threat to a wide variety of shade and ornamental trees in urban and community forests. Beginning in 2000 and 2001, Maryland Department of Agriculture conducted an ALB Information and Education Project for the arboriculture and urban forestry communities in Maryland. Informational displays, direct mailings, presentations, and training were targeted at professional arborists likely to encounter ALB. This project is a cooperative effort between the MDA's Forest Pest Management section and Plant Protection section, Maryland Forest Service, and the USDA Forest Service.

Invasive Plants — The concern over exotic pests is not limited to insects and diseases. Well known invasive plants such as kudzu, Japanese knotweed, Japanese honeysuckle, and mile-a-minute weed occur in many of the woodlots in Maryland, where they replace native plant communities and reduce aesthetic values. Invasive plants pose a threat to forests by preventing tree regeneration. Maryland Department of Agriculture participated with the USDA Forest Service for the past four years in the search for mile-a-minute weed, *Polygonum perfoliatum*. In the past few years, MDA has searched for bio-control agents by surveying and collecting insects and diseases on this plant at 15 sample sites in the northern tier of Maryland counties. This year, for a USDA Forest Service project investigating the genetic relatedness of mile-a-minute populations, MDA collected seeds of mile-a-minute from all Maryland counties with known infestations.

Urban Forestry

Roadside Tree Forest Health Assessment — The first-ever assessment of roadside trees health along right-of-ways in five metropolitan counties of Maryland between Baltimore and Washington, DC, continued for the third successive year. In 1999, 500 plots were randomly selected to assess tree health, as well as tree species distribution. In 2000, an additional 300 plots were selected. Each year, plot trees were rated using Forest Health Monitoring crown and bole damage procedures. This has been a collaborative assessment involving the Maryland Departments of Agriculture and Natural Resources and the USDA Forest Service. The Maryland Roadside Tree Law, in effect since 1914, places all trees in the road right-of-way under the DNR's protection. This effort provides the initial data on the quantity and quality of the Roadside Tree resource growing along more than 30,000 miles of improved road in Maryland. A team from the partnering agencies has been analyzing the data collected and has prepared a report on the Health of Maryland's Roadside Trees. In association with this effort, MD DNR-Forest Service personnel were trained as part of the Maryland Tree Expert Program in forest insect and disease recognition and reporting. In 2001, MDA continued to work with the USDA Forest Service in the development of urban forest health monitoring protocols. These new survey methods also were evaluated in a statewide pilot project this year.

Watershed Protection

Riparian Forest Initiative — The Chesapeake Bay Riparian Forest Buffer Initiative and the Conservation Reserve Enhancement Program has been called "Stream ReLeaf". The Program is administered by the Maryland DNR and is involved with riparian buffer restoration for all tributaries entering the Chesapeake Bay. Within Maryland, 600 miles of buffer strips are projected by the year 2010 to be planted with one or more of 45 species of riparian trees/shrubs. Over the last five years, approximately 400 miles have been planted. This represents an average of 80 miles of riparian habitat that has been restored each year, nearly double the initial goal of 43 miles. The survival of trees planted in riparian buffers was assessed by Maryland Forest Service personnel trained in pest presence and damage recognition by Maryland Forest Pest Management and USDA Forest Service Forest Health Protection crews. The training resulted in recognition and reporting of tree mortality and causal agents in buffer plantings in 21 Maryland counties in 2001.

For More Information



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